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FEDERAL COMMUNICATIONS COMMISSION
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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Preparation for International Telecommunication Union World Radiocommunication Conferences	)	ET Docket 93-198

COMMENTS OF
COMSAT MOBILE COMMUNICATIONS

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SUMMARY

COMSAT and Inmarsat are now engaged in planning and development for the next generation of satellites to provide Mobile Satellite Service. Future MSS systems will depend on use of the additional spectrum in the 2 GHz bandwidth that was allocated for global MSS at the WARC-92 Conference. As a result of some last-minute compromises at WARC-92, however, the implementation date for these global MSS bands was postponed until the year 2005. Because critical decisions need to be made in the near-term concerning the design of satellites and launch vehicles, COMSAT believes that the most important objective for the U.S. Delegation at WRC-93 should be to obtain agreement concerning the need for worldwide availability of the 2 GHz MSS bands at the earliest possible date. Agreement at WRC-93 concerning the critical need for early implementation of these frequency allocations can set the stage for formal action at WRC-95 to advance the implementation date before the year 2000.

COMSAT expects the United States would have broad support at WRC-95 to advance the date for the availability of the MSS bands. The record from the WARC-92 Conference, as well as subsequent events, reflect a recognition of the importance of new MSS frequency bands for global development of these services. Moreover, events since WARC-92 suggest that a number of Administrations would support the early implementation of the 2 GHz bands. Both within the United States and elsewhere, Administrations are planning ahead for the implementation of mobile systems in the 2 GHz bands and are beginning to relocate the fixed service operations in these bands.

COMSAT strongly believes that the timing of these actions and the progress made at WRC-93 and WRC-95 toward making the 2 GHz allocation available before the year 2000 will significantly impact

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COMMENTS OF COMSAT MOBILE COMMUNICATIONS

I. Introduction and Background

COMSAT Mobile Communications (CMC), a business unit of COMSAT Corporation, hereby submits the following comments in response to the Commission's Notice of Inquiry (NOI) in ET Docket No. 93-198, regarding preparations for the 1993 International Telecommunication Union (ITU) World Radiocommunication Conference (WRC-93). The Commission's NOI provides interested parties the opportunity to comment on issues that they believe should be addressed at future WRCs, which will now be held on a regular two-year cycle under the new ITU Constitution and Convention adopted in December, 1992 at the Additional Plenipotentiary Conference (APP) in Geneva. Specifically, the Commission's NOI focuses on the upcoming WRC-93 Conference, scheduled for a period of five days starting 15 November, 1993. The ITU Council expressly directed WRC-93 to recommend issues to be addressed at the 1995 and 1997 WRCs. In addition, the Council directed WRC-93 to consider scheduling two specific topics for the WRC-95 agenda, i.e., (1) the Report of the Voluntary Group of Experts (VGE), and (2) facilitating the use of the Mobile Satellite Service (MSS) bands that were allocated at the 1992 World Administrative Radio Conference (WARC-92). The WRC-93 Conference will not concern itself with modifications to the international Table of Frequency Allocation or to changing any other aspect of the Radio Regulations (RR), but rather will focus on agenda items for WRC-95 and WRC-97.

CMC agrees with the Commission's observation that the new biennial scheduling of WRCs should help relieve pressures to load the

agendas of the early WRCs. The Commission is also correct, we believe, that the two specific topics that the APP and the ITU Council directed WRC-95 to consider are likely to represent a substantial workload.[1] For this reason and because CMC has a major stake in the early availability of the new MSS frequency bands at 2 GHz for providing future global services using the Inmarsat system, our comments will focus on the proposed WRC-95 agenda item concerning facilitating the use of these newly allocated MSS frequency bands. We hope that our comments will aid the Commission as it participates in the U.S. process to prepare proposals and positions for WRC-93 which will lead to recommendations for agenda items for both the 1995 and 1997 WRCs.

As discussed below, CMC believes that the single most important objective for the United States at WRC-93 should be to ensure that the MSS allocations at 2 GHz are made available on a global basis at the earliest possible date in order to allow the design and development of MSS systems to proceed. Although last-minute compromises at the WARC-92 Conference led to the adoption of the year 2005 as the implementation date, the record at WARC-92 as well as subsequent events reflect agreement concerning the critical need for the early availability of MSS bands. CMC thus expects that the United States would have broad support at WRC-95 to advance the date for worldwide availability of the MSS bands to an earlier date, prior to the year 2000.[2] Moreover, while WRC-95 will be the next conference competent

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[1] See NOI at 3 n.8.

[2] The Final Acts of WARC-92 restrict the availability of the global MSS bands at 2 GHz until the year 2005 as specified in Footnote 746B to the Table of Frequency Allocations. The

to modify the RR to advance this date, we view the November WRC-93 Conference as the critical opportunity to adopt provisional arrangements to allow Administrations to coordinate use of the new 2 GHz MSS bands pending formal action at WRC-95. Such an interim measure will allow the developers of MSS systems to make decisions concerning spacecraft design and launch vehicles before WRC-95 so that these systems can begin providing service before the year 2000. Lastly, these comments discuss the vital importance of satellite feeder-links to MSS and the need to prioritize work that is underway to address sharing and coordination procedures that are necessary for geostationary orbit (GSO) systems as well as for non-GSO MSS systems. We support the Commission's suggestion that feeder-link issues should be considered at WRC-93 to ensure that sufficient progress is made to permit the resolution of these concerns at WRC-95.[3]

II. MSS Bands at 2 GHz Are Required Before the Year 2000 and are Critical to the Development of Future Mobile Satellite Services

CMC is pleased to have this opportunity to comment on the importance of WRC-93 and WRC-95 to the timely availability of emerging satellite technologies for global mobile satellite systems. The new

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circumstances at WARC-92 leading to this footnote date and to a separate U.S. footnote, 746C, indicating that these MSS bands would be available in 1996 in the United States, are discussed herein.

[3] Since most of the technical studies supporting decisions taken at WRCs will be undertaken in the Radiocommunication Sector of the ITU and considered at subsequent Radiocommunication Assemblies, it is important to ensure that U.S. preparation for the Assemblies includes consideration of the appropriate technical issues and studies necessary to support U.S. proposals and positions at future WRCs.

MSS services that are currently being developed will require use of the 2 GHz frequency allocations agreed to at WARC-92.[4] Thus, the importance of making these bands available as quickly as possible was recognized at the APP-92 in Geneva and by the ITU Council which called for guidance on how to facilitate the use of these bands and directed WRC-93 to designate this issue for the WRC-95 agenda. Because the new MSS services require use of the 2 GHz frequency allocation, we believe that the single most important objective for the United States at WRC-93 should be to obtain agreement that (1) the MSS allocations at 2 GHz must be made available on a global basis at the earliest possible date, and (2) that the agenda for the WRC-95 Conference should reflect the urgency of modifying the RR to open the new MSS allocations at 2 GHz for worldwide service before the year 2000.

CMC and Inmarsat are currently involved in an intensive process to examine alternative designs and configurations for the next generation of satellites for the Inmarsat system and to determine the type of satellites and the frequency bands to be employed. During the next six months to a year, a number of decisions will be made to narrow the options and to proceed with a design using frequency bands that best meet future MSS requirements. Critical to the timing of

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[4] WARC-92 allocated the bands 1980 - 2010 MHz (uplink) and 2170 - 2200 MHz (downlink) as global MSS bands. It also allocated the bands 1610 - 1626.5 MHz and 2483.5 - 2500 MHz to MSS on a global basis to accommodate Low Earth Orbit (LEO) satellite systems above 1 GHz. Studies have shown that sharing constraints will limit the number of MSS systems capable of operating in these bands. While several other bands were allocated for MSS, they are regional allocations or targeted for national systems and several are on a secondary basis to other primary services. Only the global MSS bands are useful to Inmarsat and other satellite systems proposing global services.

these decisions is some positive indication that the new MSS 2 GHz global bands will be available for use by the year 2000. This means that agreement must be obtained at the WRC-93 Conference to provide for provisional arrangements, perhaps in the form of a resolution, to allow coordination of these MSS bands to go forward pending final action at WRC-95. Unless this happens, we foresee serious delays in incorporating the 2 GHz MSS bands in Inmarsat spacecraft, since design decisions and launch vehicle orders need to be taken in 1994 or early 1995 to be available by the year 2000. Without these assurances, CMC and others could miss this narrow window of opportunity.

III. The Current Implementation Date for MSS Bands Resulted from Last-Minute Compromises at WARC-92 and Does not Necessarily Represent Global Consensus for Implementation in the Year 2005

The Commission's record of the WARC-92 proceeding,[5] from the early preparatory stages to the U.S. decision-making process through the Final Acts of the WARC-92 Conference, reflects the broad support within U.S. industry and around the world for new MSS frequency bands. This additional spectrum is needed to accommodate advanced satellite technologies to bring modern-day mobile services to global users. This series of decisions represents positive actions on the part of the United States and other countries to assure that the expanding global markets for maritime, aeronautical, and land mobile users of satellite systems are not stymied due to lack of usable spectrum.

[redacted]

early morning sessions, and under the pressure of the closing hours of WARC-92, some compromises were made in order to reach agreements on highly contentious issues. Thus, while there was broad agreement on the need for new MSS bands in the general range of 2 GHz, consensus on the particular bands to allocate was more difficult to reach. While the specific bands for MSS ultimately agreed to at WARC-92 were not the ones the United States initially proposed, they were put forward in the final days of the Conference and strongly supported by the U.S. Delegation as compromise bands. When they were adopted, a last-minute footnote to the Table of Allocations postponed the availability of these global bands until the year 2005. This footnote resulted from confusion regarding whether the date should be the year 2000, 2002, or 2005, as well as a concern on the part of some countries that existing fixed (terrestrial) services operating in the bands could not share with MSS and would need a long transition time to move to other bands or to use other technologies. In response to the last-minute addition of this footnote, the U.S. Delegation entered a separate country footnote to the Table of Allocations indicating that these MSS bands

IV. Positive Actions Since WARC-92 Make the 2 GHz MSS Allocations More Attractive and Reflect Widespread Support for Early Implementation

bands do not overlap the WARC-92 global MSS allocations and therefore allow the terrestrial and satellite PCS-type services to develop without problems of sharing frequencies. On the other hand, these frequency bands are sufficiently close to afford PCS operators the flexibility to employ dual-band hand-held terminals that could operate with both terrestrial and satellite systems. It is critical that worldwide allocations for PCS-type services be available at an early date in the 2 GHz band to permit satellites to play a vital role in bringing advanced mobile personal services to national and global markets. Satellite PCS-type services will complement terrestrial mobile PCS-type services and therefore the WARC-92 MSS global allocations should be made available to develop these services at an early date.

In addition to developments in the United States, we see indications in Europe and elsewhere that satellites will play a key role in PCS-type services for global roaming and cellular extensions. We understand that CEPT Administrations are taking steps to migrate fixed services now operating in the 1980 - 2010 and 2170 - 2200 MHz bands to other frequency bands to plan the introduction of Future Public Land Mobile Telecommunications Systems (FPLMTS) with a satellite component in the global MSS bands beginning in the year 2000. Also, the Department of Communications in Canada has recently issued its "Proposed Spectrum Allocations" policy guidelines in the 1-3 GHz segment of the spectrum. Canada is proposing that the 2 GHz MSS bands be considered as a priority in the implementation of new MSS systems. Canada will also take steps to reflect the ITU 2 GHz MSS

allocations from WARC-92 in the Canadian national frequency table. Moreover, Canada has proposed steps to ease the sharing constraints between MSS and the fixed service operations in the 2 GHz band.

As these examples reflect, we find that many Administrations are planning ahead for the implementation of third-generation mobile systems in the 2 GHz bands and are either taking steps or would take steps to relocate the fixed service operations in these bands. The timing of these actions depends upon how soon MSS systems are designed for service in these bands, which in turn depends upon how soon the 2 GHz bands allocated at WARC-92 become usable. Therefore, in order to foster the rapid introduction of emerging MSS technologies, we believe that the Commission must strongly support an early date for MSS implementation in the 2 GHz bands and that this should be a major objective for the U.S. Delegation to WRC-93.

V. Provisional Arrangements Must be Made at WRC-93 for the Early Implementation of the 2 GHz MSS Global Bands Pending Formal Action at WRC-95

Not only should the United States strongly advocate advancing the date for the availability of the MSS 2 GHz bands, but procedures should be adopted at WRC-93 to allow MSS 2 GHz systems to begin the process of filing with the Radio Regulations Board and coordinating with Administrations pending formal action at WRC-95 to move up the date for the availability of the 2 GHz global MSS bands. While WRC-95 will be the next conference competent to modify the RR, we view the November WRC-93 Conference as the critical opportunity to provide Administrations with provisional arrangements to coordinate use of the

new 2 GHz MSS bands prior to WRC-95. We believe interim procedures are necessary since decisions on spacecraft design and launch vehicles must be taken before WRC-95 if they are to be in service before the year 2000. We have included as Attachment I a draft Resolution that could be the vehicle to accomplish this objective.

VI. Feeder-Link Issues Should be Addressed at WRC-93 So that Work Can Continue Toward Coordination Solutions for Both GSO and non-GSO MSS Systems

CMC agrees with the Commission's suggestion[10] that WRC-93 presents an opportunity for the United States to advocate resolution of issues affecting use of satellite feeder-links as well as the new MSS bands, and to have these issues included on the agenda for WRC-95. However, we believe it is vital that the November 1993 Radiocommunication Assembly give high priority to concluding the work already underway and to initiate new work necessary to address MSS feeder-links in sufficient time for WRC-95.

MSS feeder-links are a very important and necessary component of MSS systems, because they connect the mobile satellite with fixed earth stations communicating with large numbers of mobile satellite stations that include maritime, aeronautical and land mobile terminals. The 6/4 GHz bands currently used by INMARSAT for feeder-links have provided and will continue to provide reliable, all-weather service to maritime and aeronautical users. Also of immeasurable importance to mariners and aviators is the delivery of safety and distress communications as necessary to meet these vital needs. In

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[10] See NOI at 5.

our view, the need for reliable and economical feeder-links for MSS systems will continue to require spectrum allocations below 10 GHz.

CMC also recognizes that special considerations are required for non-GSO MSS systems operating feeder-links in Fixed Satellite Service (FSS) bands due to the provisions of RR 2613. This regulation requires that non-GSO systems protect existing or future GSO FSS

practical solutions found so that GSO and non-GSO MSS networks can be accommodated. CMC believes these issues must be addressed now, and we are prepared to participate to the fullest extent necessary to conclude this work in time for WRC-95.

VII. CONCLUSION

CMC appreciates the opportunity to comment in response to the Commission's Notice of Inquiry regarding the upcoming WRC Conferences and hopes that these comments aid the Commission in preparing U.S.

Attachment I

DRAFT

RESOLUTION YYY

PROVISIONAL ARRANGEMENTS FOR THE COORDINATION OF FREQUENCY ASSIGNMENTS IN THE MOBILE SATELLITE SERVICE FOR SATELLITE NETWORKS PLANNED FOR OPERATION IN THE FREQUENCY BANDS 1980-2010/2170-2200 MHZ PRIOR TO THE YEAR 2005

The World Radio Conference (Geneva, 1993),

considering:

a) that the frequency bands 1980-2010/2170-2200 MHz are allocated on a worldwide and co-primary basis to the Fixed, Mobile and Mobile Satellite Services

b) that the frequency bands 1885-2025/2110-2200 MHz are intended for the use on a worldwide basis by Administrations wishing to implement the Future Public Land Mobile Telecommunication System (FPLMTS), including any satellite component operating in the bands allocated for MSS

c) that the Final Acts of WARC-92 restrict the worldwide availability of the MSS bands until the year 2005 by footnote 746B to the Table of Allocations;

recognizing:

a) that the FPLMTS comprises both a terrestrial and satellite component and that the FPLMTS could also meet the telecommunication needs of the developing countries and rural areas;

b) that MSS networks could provide the satellite component of

resolves that:

1 - Administrations are authorised from November 19, 1993 to initiate coordinations according to the provisions of Resolution 46 of the Final Acts of WARC-92. In order to implement MSS networks in the 1980-2010/2170-2200 MHz bands prior to the year 2005 pending action at WRC-95 to change the date in footnote 746B.

Instructs the Regulations Board and the Radiocommunication Bureau:

to apply these provisions and to provide the necessary assistance to Administrations

Instructs the Secretary General:

to bring this Resolution to the attention of WRC-95

CERTIFICATE OF SERVICE

I, Rose M. Javier, do hereby certify that the foregoing "Comments of COMSAT Mobile Communications", dated July 19, 1993, has been sent by United States mail, postage prepaid, to the following:

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